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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,035	04/12/2005	Mark Thomas Johnson	NL021026US	5048

24737 7590 06/22/2010

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER	
LAM, VINH TANG	

ART UNIT	PAPER NUMBER
2629	

MAIL DATE	DELIVERY MODE
06/22/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/531,035	JOHNSON, MARK THOMAS	
	Examiner	Art Unit	
	VINH LAM	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 April 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 April 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims **1-3, 7-9,** and **13-14** are rejected under 35 U.S.C. 102(e) as being anticipated by **Handschy et al. (US Patent No. 6507330).**

Regarding Claim **1**, (Currently amended) **Handschy et al.** teach a display apparatus for displaying an image, the display image apparatus comprising:

a matrix display device comprising a plurality of pixels, an optical state of each pixel being defined by particles moving in a fluid between electrodes *(Col. **8**, Ln. **13-19**, FIG. **1**)* dependent on a drive voltage having parameters including a value of the drive voltage *(Col. **11**, Ln. **2-14**, FIG. **4**, i.e. magnitude, duration, or frequency)* a polarity *(Col. **11**, Ln. **2-14**, FIG. **4**, i.e. positive or negative)* of the drive voltage and a duration of the drive voltage in a drive period during which the drive voltage is present across the pixel *(Col. **11**, Ln. **2-14**, FIG. **4**)*;

a driver *(Col. **9**, Ln. **53-55**, i.e. the image-producing electric fields)* for supplying a sequence of the drive voltages across the pixel during corresponding successive drive periods *(Col. **9**, Ln. **17-39**, FIG. **11**)*, wherein each of the sequence of drive voltages

and drive periods *(Col. **9**, Ln. **17-39**, FIG. **11**, i.e. +/-1.5V , +/-3.0V and 2.70/1.35 s)* are applied according to input image data that produces the displayed image *(Col. **14**, Ln. **4-14**, FIG. **14**)*; and

a DC-balancing circuit *(Col. **9**, Ln. **27-30**, i.e. FLC **38**)* comprising a controller *(Col. **8**, Ln. **58-63**, Col. **9**, Ln. **2-14**, FIGs. **2A-2C**, i.e. **VLSI**)* for providing image retention reducing compensation *(Col. **9**, Ln. **27-30**)* to sequence of drive voltages by adjusting at least one of the drive voltage parameters *(FIGs. **11-13**, i.e. magnitude and/or duration)* for determining a time-average value of the drive voltages for the pixel, and for obtaining a substantially zero value of the time-average value of the drive voltage for consecutive fields of the pixel *(FIGs. **11-13**)*,

wherein the controller adjusts the drive voltage parameters in steps corresponding to sub-fields of the field of the pixel *(Col. **11**, Ln. **2-9**, FIG. **4**)*.

Regarding Claim **2**, (Previously presented) **Handschy et al.** teach the display apparatus as claimed in claim 1, wherein the DC-balancing circuit further comprises a memory, and wherein the controller is adapted for summing in the memory, for the drive period of each pixel, a number indicating a multiplication of the duration of said drive period and the value of the drive voltage supplied during said drive period to said pixel, and adapting the value of the at least one of the value of the drive voltage and the duration of the drive period to obtain a value of the number being as near-to zero as possible, the number corresponding to the time-average value *(Col. **9**, Ln. **31-44**, FIGs. **11-13**)*.

Regarding Claim **3**, (Previously presented) **Handschy et al.** teach the display apparatus as claimed in claim 1, further comprising:

a control circuit for driving the matrix display device in a sub-field mode wherein grey scales corresponding to the sub-field of each pixel are determined by a number of sub-fields receiving the drive voltage during the corresponding field, and wherein the drive period is the duration of the number of sub-fields receiving the drive voltage *(Col. **11**, Ln. **2-9**, FIG. **4**)*.

Regarding Claim **7**, (Previously presented) **Handschy et al.** teach the display apparatus as claimed in claim 1, wherein a desired coloration of the pixel, after an initial period of time required to obtain the desired coloration, is substantially independent on the duration of the drive period, and wherein the controller is adapted for controlling the duration of the drive period to be longer than the initial period when the number indicates that a polarity of the drive voltage is opposite to a plurality of an initial drive voltage corresponding to the initial period *(Col. **12**, Ln. **33-41**, FIG. **8**)*.

Regarding Claim **8**, (Previously presented) **Handschy et al.** teach the display apparatus as claimed in claim 7, wherein the controller is adapted for controlling the duration of the drive period not to exceed the initial period when the initial period causes the number to change sign *(Col. **13**, Ln. **36-50**, FIG. **11**)*.

Regarding Claim **9**, (Previously presented) **Handschy et al.** teach the display apparatus as claimed in claim 1, wherein a desired coloration of the pixel, after an initial period of time required to obtain the desired coloration, is substantially independent on the duration of the drive period, and wherein the controller is adapted

for controlling the duration of the drive period to be substantially identical to the initial period when the number indicates that a polarity of the drive voltage is the same as a plurality of an initial drive voltage corresponding to the initial period *(Col. **13**, Ln. **23-35**, FIGs. **11-13**)*.

Regarding Claim **13**, (Currently amended) **Handschy et al.** teach a method of displaying an image by driving a matrix display device comprising a plurality of pixels, an optical state of each pixel being defined by particles moving in a fluid between electrodes dependent on a drive voltage having parameters including a value of the drive voltage, a polarity of the drive voltage and a duration of the drive voltage in a drive period during which the drive voltage is present across the pixel, the method comprising acts of:

supplying a sequence of the drive voltages across each pixel during corresponding successive drive periods *(Col. **9**, Ln. **17-39**, FIG. **11**)*, wherein each of the sequence of drive voltages *(Col. **9**, Ln. **17-39**, FIG. **11**, i.e. +/-1.5V , +/-3.0V and 2.70/1.35 s)* are applied according to input image data that produces the displayed image *(Col. **14**, Ln. **4-14**, FIG. **14**)*;

providing image retention reducing compensation to the sequence of the drive voltages *(Col. **9**, Ln. **27-30**)* by adjusting at least one of the drive voltage parameters *(FIGs. **11-13**, i.e. magnitude and/or duration)*;

determining a time average-value of the drive voltage for the pixel *(FIGs. **11-13**)*; and

obtaining a substantially zero value of a time-average value of the drive voltage across pixel while the pixel is being driven according to the input image data *(FIGs. **10-11**)* that produces the displayed image *(Col. **14**, Ln. **4-14**, FIG. **14**)*,

wherein the time-average value is based on a product of the value of the drive voltage and the duration of the drive voltage in a corresponding drive period of a previous consecutive field of the pixel *(FIGs. **11-13**)*, and

wherein the drive voltage parameters are adjusted in steps corresponding to sub-fields of the field of the pixel *(FIGs. **11-13**)* that produces the displayed image *(Col. **14**, Ln. **4-14**, FIG. **14**)*.

Regarding Claim **14**, (New) **Handschy et al.** teach a display apparatus for displaying a plurality of images, the display apparatus comprising:

a matrix display device comprising a plurality of pixels, an optical state of each pixel being defined by particles moving in a fluid between electrodes *(Col. **8**, Ln. **13-19**, FIG. **1**)* dependent on a drive voltage having parameters including a value of the drive voltage *(Col. **11**, Ln. **2-14**, FIG. **4**, i.e. magnitude, duration, or frequency)*, a polarity of the drive voltage *(Col. **11**, Ln. **2-14**, FIG. **4**, i.e. positive or negative)*, and a duration of the drive voltage in a drive period during which the drive voltage is present across the pixel *(Col. **11**, Ln. **2-14**, FIG. **4**, i.e. magnitude, duration, or frequency)*;

a driver *(Col. **9**, Ln. **53-55**, i.e. the image-producing electric fields)* for supplying a sequence of the drive voltages across the pixel during corresponding successive drive periods *(Col. **9**, Ln. **17-39**, FIG. **11**)*, wherein each of the sequence of drive voltages are applied according to input image data *(Col. **9**, Ln. **17-39**, FIG. **11**, i.e. +/-1.5V , +/-3.0V*

and 2.70/1.35 s) that produces one of the plurality of displayed images *(Col. **14**, Ln. **4-14**, FIG. **14**)*; and

a DC-balancing circuit *(Col. **9**, Ln. **27-30**, i.e. FLC **38**)* comprising a controller *Col. **8**, Ln. **58-63**, Col. **9**, Ln. **2-14**, FIGs. **2A-2C**, i.e. **VLSI**)* for providing image retention reducing compensation *(Col. **9**, Ln. **27-30**)* to the sequence of drive voltages by adjusting at least one of the drive voltage parameters, for determining a time-average value for each pixel, used to adjust at least one of the value of the drive voltage applied during a subsequent sub-field drive period and a duration of the subsequent sub-field drive period while the pixel is being driven by subsequent input image data *(FIGs. **11-13**, i.e. magnitude and/or duration)* that produces a subsequent one of the plurality of displayed images *(Col. **14**, Ln. **4-14**, FIG. **14**)*, to compensate for the drive voltage applied during a previous sub-field drive period and a duration of the previous sub-field drive period while the pixel is being driven by previous input image data that produces a previous one of the plurality of displayed images to obtain a substantially zero value of the time-average value for each consecutive field of the pixel *(FIGs. **11-13**)*,

wherein the controller adjusts the drive voltage parameters in steps corresponding to sub-fields of the field of the pixel *(Col. **11**, Ln. **2-9**, FIG. **4**)*.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) a patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim **4** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Handschy et al. (US Patent No. 6507330)** in view of **Admitted Prior Art (hereinafter APA).**

Regarding Claim **4**, (Previously presented) **Handschy et al.** teach the display apparatus as claimed in claim 2.

However, **Handschy et al.** do not teach the controller is adapted for comparing an absolute value of the number with a threshold number to supply a reset pulse to the pixel when an absolute value of the number for the pixel surpasses the threshold number.

In the same field of endeavor, **APA** teaches the controller is adapted for comparing an absolute value of the number with a threshold number to supply a reset pulse to the pixel when an absolute value of the number for the pixel surpasses the threshold number (i.e. "… reset pulse operates in the **same** manner as in the **prior art** …"; Col. **2**, [**0025**]).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Handschy et al.** teaching of a DC-balancing circuit further comprising a memory, a controller for adapting a value of at least one a drive voltage and a duration to obtain a value of a number being as near-to zero as possible, wherein the number corresponding to the time-average value with **APA** teaching of a controller for comparing an absolute value of the number with a threshold number to supply a reset pulse to the pixel when an absolute value of the number for the pixel

surpasses the threshold number *in order to benefit of* improving overall image quality and reducing the image retention.

3. Claim **5** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Handschy et al. (US Patent No. 6507330)** in view of **Abramson et al. (US Patent No. 6950220).**

Regarding Claim **5**, (Previously presented) **Handschy et al.** teach the display apparatus as claimed in claim 2.

However, **Handschy et al.** do not teach the display device further comprising a temperature sensor for sensing a temperature of the pixel, and wherein the controller is adapted for modifying the number dependent on the temperature.

In the same field of endeavor, **Abramson et al.** teach the display device further comprising a temperature sensor for sensing a temperature of the pixel, and wherein the controller is adapted for modifying the number dependent on the temperature (Col. **20**, Ln. **2-7**).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Handschy et al.** teaching of a DC-balancing circuit further comprising a memory, a controller for adapting a value of at least one a drive voltage and a duration to obtain a value of a number being as near-to zero as possible, wherein the number corresponding to the time-average value with **Abramson et al.** teaching of the display device further comprising a temperature sensor for sensing a temperature of the pixel, and wherein the controller is adapted for modifying the number

dependent on the temperature *in order to benefit of* improving the image quality to compensate for the pixel temperature.

4. Claims **6** and **10-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Handschy et al. (US Patent No. 6507330)** in view of **Katase (US Patent No. 6961047).**

Regarding Claim **6**, (Previously presented) **Handschy et al.** teach the display apparatus as claimed in claim 2.

However, **Handschy et al.** do not teach the controller is adapted for modifying the number non- linearly dependent on the value of the drive voltage.

In the same field of endeavor, **Katase** teaches the controller is adapted for modifying the number non- linearly dependent on the value of the drive voltage (Col. **20**, Ln. **2**-**7**).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Handschy et al.** teaching of a DC-balancing circuit further comprising a memory, a controller for adapting a value of at least one a drive voltage and a duration to obtain a value of a number being as near-to zero as possible, wherein the number corresponding to the time-average value with **Katase** teaching of the controller for modifying the number non-linearly dependent on the value of the drive voltage *in order to benefit of* improving the image quality to correct the non-linearity dependent on the value of the drive voltage.

Regarding Claim **10**, (Previously presented) **Handschy et al.** teach the display apparatus as claimed in claim 7.

However, **Handschy et al.** do not teach the display device is an electrophoretic display, and the pixel comprises two switching electrodes and a further electrode, the driver being adapted for supplying the sequence of drive voltages to the two switching electrodes and the further electrode controlling intermediate optical states of the pixel.

In the same field of endeavor, **Katase** teaches teach the display device is an electrophoretic display, and the pixel comprises two switching electrodes and a further electrode (Col. **4**, Ln. **60**-**68**, Col. **5**, Ln. **1**-**7**, FIG.**1**, & FIG. **2**), the driver being adapted for supplying the sequence of drive voltages to the two switching electrodes and the further electrode controlling intermediate optical states of the pixel (Col. **6**, Ln. **16**-**25**, FIG. **3**).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Handschy et al.** teaching of a desired coloration of the pixel being independent on the duration of the drive period, and the driver for controlling the duration of the drive period to be longer than the initial period when the number indicating that a polarity reversed with **Katase** teaching of including an electrophoretic display, wherein the pixel comprises two switching electrodes and a further electrode, and the driver for supplying a sequence of drive voltages to the to control the pixel's optical states *in order to benefit of* improving the image quality of an electrophoretic display to adapt adjusting at least one of the voltage value and the corresponding drive period duration.

Regarding Claim **11**, (Previously presented) **Handschy et al.** teach the display apparatus as claimed in claim 7, wherein the driver is adapted for supplying the

sequence of drive voltages between the at least two electrodes for setting a grey scale of the pixel by providing a drive voltage lower than a usually applied drive voltage which sets a grey level by modulating the duration of the drive period during which the usually applied drive voltage is present (Col. **12**, Ln. **33**-**41**, FIG. **8**).

However, **Handschy et al.** do not teach wherein the display device is an electrophoretic display, and wherein the pixel comprises at least two electrodes.

In the same field of endeavor, **Katase** teaches the display device is an electrophoretic display, and wherein the pixel comprises at least two electrodes (Col. **4**, Ln. **60**-**68**, Col. **5**, Ln. **1**-**7**, FIG.**1**, & FIG. **2**).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Handschy et al.** teaching of a desired coloration of the pixel being independent on the duration of the drive period, and the driver for controlling the duration of the drive period to be longer than the initial period when the number indicating that a polarity reversed with **Katase** teaching of including an electrophoretic display, and wherein the pixel comprises at least two electrodes *in order to benefit of* improving the image quality of an electrophoretic display to adapt adjusting at least one of the voltage value and the corresponding drive period duration.

Regarding Claim **12**, (Previously presented) **Handschy et al.** teach the display apparatus as claimed in claim 1.

However, **Handschy et al.** do not teach the display device is an electrophoretic display.

In the same field of endeavor, **Katase** teaches the display device is an electrophoretic display (Col. **4**, Ln. **60**-**68**, Col. **5**, Ln. **1**-**7**, FIG.**1**, & FIG. **2**).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Handschy et al.** teaching of a matrix display device comprising a plurality of pixels, an optical state of each pixel dependent polarity of a drive voltage and a duration, a driver for supplying a sequence of drive voltages and periods corresponding to input image data, and a DC-balancing circuit determining a time-average value for each pixel, to adjust one of the drive voltage and the duration to obtain a substantially zero value of the time-average for each consecutive field of the pixel, wherein at least one of the drive voltage and the duration being adjusted in steps corresponding to sub-fields of the pixel with **Katase** teaching of the display device being an electrophoretic display *in order to benefit of* improving the image quality and prolonging the life of an electrophoretic display.

Response to Arguments/Amendments/Remarks

5. Applicant's arguments, see Page(s) 9-10 filed 04/21/2010, with respect to the Rejection under 35 U.S.C. §112 2nd ¶ have been fully considered and are persuasive. The Rejection of 35 U.S.C. §112 2nd ¶ have been withdrawn.

6. Applicant's arguments, see Page(s) 10-14 filed 04/21/2010, with respect to newly amended claims 1, 13, and 14 have been fully considered and are not persuasive.

Applicant argues that **Handschy et al.** teaching of *"…wherein each of the sequence of drive voltages are applied according to input image data that produces the displayed image; and … providing image retention reducing compensation to the sequence of drive voltages by adjusting at least one of the drive voltage parameters … and for obtaining a substantially zero value of the time-average value of the drive voltage for consecutive fields of the pixel while the pixel is being driven according to the input image data that produces the displayed image…"*. However, the Examiner respectfully disagrees because it is undisputedly that **Handschy et al.** teaching is readable on the claim limitations, i.e.,

*"…wherein each of the sequence of drive voltages are applied according to input image data (Col. **9**, Ln. **17-39**, FIG. **11**, i.e. +/-1.5V , +/-3.0V and 2.70/1.35 s) that produces one of the plurality of displayed images (Col. **14**, Ln. **4-14**, FIG. **14**); and*

*a DC-balancing circuit (Col. **9**, Ln. **27-30**, i.e. FLC **38**) comprising a controller Col. **8**, Ln. **58-63**, Col. **9**, Ln. **2-14**, FIGs. **2A-2C**, i.e. **VLSI**) for providing image retention reducing compensation (Col. **9**, Ln. **27-30**) to the sequence of drive voltages by adjusting at least one of the drive voltage parameters, for determining a time-average value for each pixel, used to adjust at least one of the value of the drive voltage applied during a subsequent sub-field drive period and a duration of the subsequent sub-field drive period while the pixel is being driven by subsequent input image data (FIGs. **11-13**, i.e. magnitude and/or duration) that produces a subsequent one of the plurality of displayed images (Col. **14**, Ln. **4-14**, FIG. **14**)…"*. Please see the above rejection for detail.

Fig. 3 does not apply on ALL of **Handschy et al.** teachings.

Handschy et al. undisputedly and explicitly teach that the images may or may not be "visible" *(Col. **14**, Ln. **4-14**, FIG. **14**).*

Furthermore, not only **Handschy et al.** undisputedly and explicitly teach that the images the images may or may not be "visible" but also it is **well-known** that the image would be "visible" *(Col. **13**, Ln. **17-35**, FIG. **10**).*

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINH LAM whose telephone number is (571)270-3704. The examiner can normally be reached on 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on (571)272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Vinh Lam/
Examiner, Art Unit 2629

/Amare Mengistu/
Supervisory Patent Examiner, Art Unit 2629